An approach to a new innovation model in the media sector: an exploratory case study

Edna R Bravo*
Joan Mundet*

***Technical University of Catalonia, Department of Management, 08222 Terrasa (Spain), phone: +34 937398169, fax: +34937398101. E-mail: edna.bravo@upc.edu joan.mundet@upc.edu

Abstract.

The main objective of this paper is to present a new model in order to understand and define the innovation capacity based on the results obtained from a multiple case study in the media sector. This model states that four organizational processes form the innovation capacity: knowledge creation, knowledge absorption, knowledge integration and knowledge reconfiguration, which are underpinned by a coherent mix of four organizational resources. Furthermore, the best practices supporting each one of these resources have been identified.

Keywords: innovation capacity, integration knowledge, reconfiguration knowledge

Introduction.

Innovation is associated with a high degree of variation and exploration (March 1991). It requires new knowledge and new knowledge combinations that are specific to its particular context (Eisenhardt & Martin 2000). The RBV perspective and especially the dynamic capabilities approach can provide a useful theoretical lens for exploring innovation management practices at the organizational level. Dynamic capabilities are distinct from organizational capabilities in their ability to enable the firm to innovate outside its current routines. Organizational capabilities provide the means for configuring organizational resources (Eisenhardt & Martin 2000). They consist in higher-order organizing practices that transform the expertise of the organization and its members into products and services(Kogut & Zander 1992).

The literature provides widely ranging and often conflicting definitions of dynamic capabilities (Schreyogg & Kliesch-Eberl 2007). One common theme, and one that aligns well with the nature of innovation, is that dynamic capabilities are more specifically associated with change (Eisenhardt & Martin 2000). Another theme is their ability to allow a firm to stretch beyond current routines to solve problems differently (Zahra, Sapienza, & Davidsson 2006). Other definitions state that dynamic capabilities do not exhibit the highly patterned qualities of routine operational capabilities; they are akin to best practices that provide individuals with focus and guidance, while allowing for iterative experimentation (Eisenhardt & Martin 2000). This paper seeks to identify

and understand the organizational processes and resources involved in the innovation capacity. Also the best practices derivated from their combination. This research takes the position that practices for managing innovation successful projects are a key component of the dynamic capabilities as innovation.

The findings of empirical research also show that dynamic capabilities tend to leverage actors (human capital), structure and systems, company culture and physical resources (Verona & Ravasi 2003). These four groups of resources are those that dynamic capabilities as innovation capacity must use and leverage in order to generate continuous product innovation process. This research identifies best practices related with the first three types of resources and highlights the relevant roll of the manager Leadership in the development of innovation capacity. We define dynamic capabilities, for the purpose of this research, as a set of practices aimed at enabling novel approaches for assembling and integrating resources to achieve innovative outcomes. Instead, these practices are the result of an optimal alignment of knowledge management processes in a way that creates innovation to new value for the organization.

Meanwhile by the comparison of different definitions of knowledge management the following aspects of high relevance are resulted: Creation of new knowledge, knowledge absorption, knowledge integration, and knowledge reconfiguration (Fosfuri & Tribo 2008;Grant 1996;Lavie 2006).

The reviewed literature

Definitions of innovation

According to Porter (2008), innovation means technological progress and is a business practice to accomplish firms activities via better methods and processes. For that reason, companies acquire competitive advantages by being innovative, while developing newest technologies and modern production techniques.

From the managerial point of view, innovation could be defined as the development and creation of new or improved products, business methods or services. Usually, suitable conditions for creating innovation result from certain changes in the environment such a new consumer needs or the new solutions for existing needs (Lovas & Ghoshal 2000).

Organizational innovation

In today's era of economic knowledge, strategies must be focused on expanding existent markets or creating new markets (Kim & Mauborgne 2003). The past way of

business management cannot assure that they can provide firms with competitive advantages (Lei, Slocum, & Pitts 1999). Continual innovation is the only way for firms to obtain a winning position in the competition (Hoffman 1999).

Schepers J, Schnell R, & Vroom P (1999) contends that continuous growth is the main successful factor for almost all firms. Innovation is the principal factor to trigger business growth. Only if firms can continually create new products, systems and service items to make every department meet the demands of the customer will they be able to obtain long-term success. According to the research of (Higgins 1995) the largest property of twenty first century firms lies in their capability for innovation. Innovation definitely bring individuals, teams, organization, industries o societies better values and may provide a firm a relative low cost production process, namely in good control of the tips with competitive advantages.

The correlation between knowledge accumulation and organizational innovation

In today's age of information explosion, the knowledge activities of a firm are being viewed as a type of intellectual property. By establishing excellent knowledge management systems, it is possible for a firm to make good effective use of its own resources so that they can accumulate business management experience and reach their goals for organizational innovation.

In their research of organizational innovation Liu, Tsai, & Chung L.M (2001) suggest that under today's new competition environment, firms in the future will have to resort to continual innovation if they wish to obtain a competitive advantage. How to effectively absorb external knowledge and how integrate their own knowledge and creativity and create new techniques, new products and new management ways are critical issue for existing firms in pursuit of organizational innovation (Chen & Lin 2009).

Research Method

Given the early stage of empirical research on innovation capacity, we followed the logic of grounded theory by building our analysis on an exploratory case study (GlaserB & A.Strauss 1967;Miles & Huberman 1994). This method has already been successfully adopted in the field of continuous innovation (Brown & Eisenhardt 1997;Danneels 2002) and is consistent with the issues of theory development in the field of dynamic capabilities. The adoption of a qualitative methodology is also consistent with the fact that dynamic capabilities like a innovation capacity are processes and presents an embedded nature (Lee 1999). For example, Henderson & Cockburn (1994) observe how capabilities are typically the result of complex processes comprising the accumulation of minor decisions and actions undertaken over many

years in a situation of great uncertainty. Therefore, they are very difficult to identify through quantitative research.

Our research setting, three companies in the Spain media sector are leading providing advanced solutions services for audiovisual industry. They develop applications for interactive televisions. These firms also provide supply digital production and management systems for audiovisual companies. They are the leading provider weather content and they also create automatic characters. These companies were selected because the high visibility of the object investigated i.e. the capacity to sustain continuous innovation. Our study encompassed 27 in depth individual, semi-structured interviews with the CEO, members of the top management team, and other managers directly involved in leading projects. We select our informants, trying to balance the different professional areas, and different levels of responsibility, in order to gather and integrate a variety of perspectives. We also relied on an extensive archival search that included financial statements, annual reports, internal documents, industry publications and other written material on the companies.

Data analysis followed the general guidelines for grounded theory (Matthew B.Miles & A.Michael Huberman 1994). The analysis was initially conducted independently by the two authors and combined with the results of the archival collection. Our aim was to build on and move beyond our informants descriptions in an attempt to interpret facts and information and integrate them in an emerging conceptual model. Although the process followed a sequential path, results from each stage were adjusted and further developed as additional sets of data made us reconsider and revise our interpretations in order to improve the fit between the tentative model and the data. This iterative approach is consistent with the general prescription for grounded theory building to interpret data on continual and evolving base. We began our analysis for looking categories that could explain the observed phenomenon i.e. the substantial increase in the company's innovative capacity. By building on insightful remarks from some of our informants, we selected knowledge integration as an effective general framework to guide our interpretations. Our attention then turned to the capabilities that underpinned the company's increased capacity to integrated distributed knowledge. Then, following dynamic capabilities statements, we focused on organizational processes, starting with those that were more directly affected by the reorganization that preceded the considerable improvements in the effectiveness and efficiency of the new product development processes. Our search initially focused on the features of the organizational structure and systems to investigate how they affected the process of knowledge integration. However, following our informants' accounts, we soon realized that the organizational context alone could not completely explain the renewed ability to

innovate. After having identified the fundamental processes/capabilities that underpinned innovation capacity, we tracked the activities that were recognized as more important by our informants in the innovation process.

The organizational innovation in media sector

The three companies analysed are structured as project-based organizations. The functional activities are grouped across projects. The departments are centres of co-ordination. This structure seems to have created a favourable context for development of innovation capacity. That is reflected in the continuous flow of new products. Evidence of our study suggest that innovation capacity rest on the simultaneous presence of four processes regarding knowledge creation, knowledge absorption, knowledge integration, and knowledge reconfiguration. In the following sections, these four essential processes will be presented. In the model is showing four types of resources supported by a set of best practices relates with innovation capacity of the three companies in the media sector studied.

Knowledge creation and absorption

The creation of advanced solutions services for audiovisual industry needs to integrated basic research with technology development in a specific R&D department. Researchers employed by media companies, in fact usually have an engineering background that enables them to deal with the audiovisual aspects of product development. The commitment to invest in basic science has conduced the firms to develop a master in telecommunications to keep a continuous feedback with academic community. Another source of new knowledge creation and absorption is the development of International projects. As the director of projects remarked:

" The development of projects has a double purpose: improve the product and acquire new knowledge and reinforce Partners relationships"

The establishment of a separate subject research facility also increased the capacity to absorb knowledge from external sources. In fact, a distinctive characteristic of the research site is the broad autonomy researchers enjoy in terms of fields and line of inquiry. Unless specifically related to new product development, scientific knowledge produced from the R&D projects is shared with the academic community. The engineers researchers involved in new projects are encouraged to publish in international conferences. This reputation is good for the three companies analyzed and help them to acquire knowledge in several ways. One of this ways is for example;

unconventional collaborations may be established for individuals projects. As the CEO of one of the three companies studied remarks:

" Many times, we carried out experimental projects with our suppliers; for instance, when a specific software necessity appears but has not been develop by our suppliers, a new project is started to develop it"

To sum up, evidence from our study emphasizes the impact of the development of R&D projects, which makes it possible to develop and acquire specialized knowledge necessary to evolve the advanced solutions provided for audiovisual industry.

Integration Knowledge

Some of the new products introduced by the three companies analyzed during the last five years were based on incremental innovations developed on the spontaneous initiative of engineers. The increasingly complex technology used to create the new products made necessary implement a more organic architecture in order to increase the speed and efficiency of transferring ideas and concepts across the organization. The new architecture called integrated project development is organized around a series of cross-functional project teams in charge of single development projects. Interdepartmental barriers not exist. Employees are grouped together in so-called "competences groups". As one member of the development group remarked:

"We combine our competences to offer to the market new integrated products"

The co-ordination of the competence groups is developed trough managers who are in charge of obtaining physical, technological and human resources for the product development process. They are responsible for selecting, hiring and training people and coordinating the development of internal skills in order to maintain sources of competencies for the different projects. Professional managers are also responsible for making sure that specialized knowledge circulates and is transferred across projects. People belonging to "competence groups" meet weekly to discuss issues of general interest in order to make sure that all the members can benefit and learn from the experience acquired in individual projects. To guarantee that specialized knowledge is transferred is utilized one system of codified knowledge. As one technical manager remarked:

"The new applications arise from the stock of knowledge, of integration and a register of the procedural information and results from previous projects"

While “competence groups” represent sources of specialized knowledge, the integration of this knowledge actually takes place in development projects. At the start of any project, a team is formed and the members work together until the project is completed. Members of the competence groups are relative free to decide whether to take part in a new project. People are not assigned on a hierarchical basis but are encouraged to participate according to their skill and interests. Everyone is responsible for the activities developed in the different projects according to the person’s attitudes, skills and personal aspirations. People are also encouraged to fell responsible for the entire project not only by applying their specific skills but also by contributing to solving the problems arising during the various phases of the project. Our informants agreed that the project-based organization has lead to increased interaction across levels and competence groups so that it is easier to exchange ideas and integrate specialized skills. This project-based organization with the absence of a hierarchy requires a willingness to work in a fundamentally ambiguous environment. In order to ensure that employees posses the flexibility such a system requires, recruiting is based not only in a professional skills but also on attitudes and life experience.

To sum up, even though knowledge creation and absorption represent the pre-requisite for innovation, what triggers the dynamic process of continuous innovation is the knowledge integration the specialized knowledge dispersed in the company. In the three companies studied, this integration knowledge capability rest on a fluid project based organization that foster the development of individual potential, improves the capacity to tap individual knowledge and ideas, and institutionalize the spontaneous and collective contribution to ledge and ideas, and institutionalize the spontaneous and collective contribution to product innovation.

Knowledge reconfiguration

To the subsequent reorganization of existing knowledge and competencies into other innovative products the companies analyzed in the three cases displayed a capability to reorganize periodically the patterns of knowledge integration that underlay its product technologies. This capability rests on the structure more open to periodic redefinition and allows patterns of co-operation and communication to evolve over time as new products become established and project teams evolve into product management structures that do not overlap or replace those that already exist but co-exist with them. This type of open structure facilitates the continuous reorganization of the company resources and leads substantial changes in strategies and products. Other element that encourages these changes is an open culture that proposes

initiatives of groups or individuals. As the senior manager involved in global projects said:

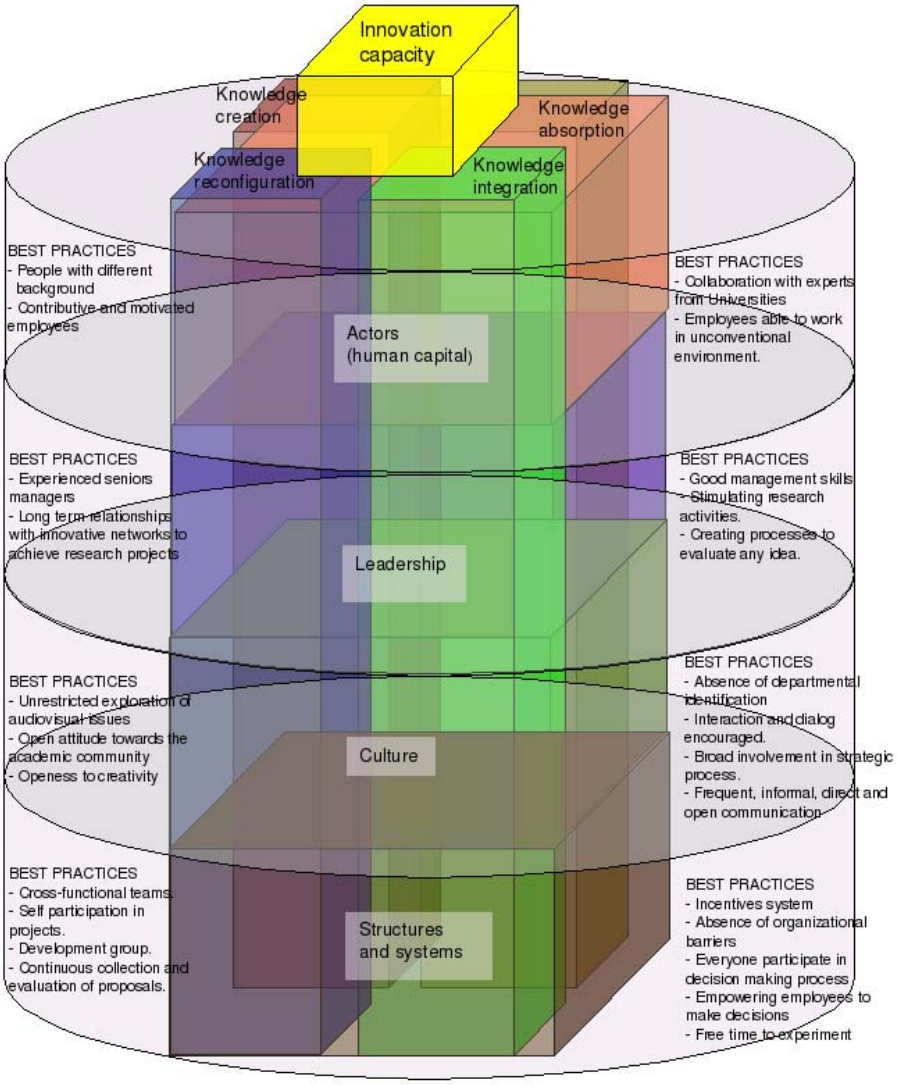
"Even though sometimes projects are initiated by the management group most of the projects actually star because a engineer has a good idea and want to realize it"

This statement reflects an organization culture that is open to dispersed individual contributions and helps sustain continuous innovation through the reorganization of existing resources innovation. Individual knowledge is, in fact, the seed that generates innovative ideas and an open mind represents the most fertile ground.

The managers in these three companies always to remind employees of the constant need to think the unthinkable in order to go beyond current practices and ideas and strive for innovation.

To sum up, our study suggest that the capacity of the three firms analyzed to recognize continuously patterns of knowledge embodied in products and activities rest on the architecture based on the absence of permanent formal structures, multiple and evolving relational patterns, and open an informal culture.

Figure 1. An approach to a new innovation model in the media sector



Discussion and conclusions

The purpose of this study was the identification an analysis of the resources of process involved in the development of a continuous innovation capacity in order to create a conceptual model (see figure 1). In the article we presented and discussed a multiple case study of a three leading companies in the media sector, which demonstrated an outstanding ability to sustain continuous innovation. The companies seemed to provide an appropriate setting because was possible to recognize the best practices and the resources involved in the development of the innovation capability.

The first result of three companies in depth study indicates that in order to develop the innovation capability a firm should applied best practices derivates of simultaneous presence of four processes: Knowledge creation, knowledge absorption, knowledge integration, and knowledge reconfiguration. Links the findings to previous literature shows how these knowledge-based processes are all based on a coherent mix of organizational resources. Moreover, the peculiar project based structure of the three companies analysed promotes the combination of knowledge components dispersed within the organization by transforming specialized technical knowledge into new products. As maintained by Cohen & Levinthal (1990), the ability to acquire knowledge is directly related to the presence of previous related knowledge, meaning that firms must already have invested in technical knowledge if they want to benefit from the knowledge they absorb. Likewise, the three firms studied have exchange knowledge with their outside environment. The second result emphasizes that, if a firm wants to sequence product innovations, it must create a context that spurs creativity from all parts of the organization. The three companies in the media sector analysed provides a framework showing how the way organizational culture, systems and structures are managed enables the company to tap dispersed knowledge and stimulate local creativity. The third result of the analysis of the three companies in the media sector shows that each knowledge managing process actually leverages company resources, especially those regarding human capital, leadership, structures and systems, and company culture. What we discovered from the three companies analyzed is that the four organizational resources and the best practices includes in them must coexist and be coherent in order to generate competitive advantage trough continuous innovation.

References

Brown, S. L. & Eisenhardt, K. M. 1997, "The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations", *Administrative Science Quarterly*, vol. 42, no. 1, pp. 1-34.

Chen, H. J. & Lin, T. C. 2009, "Exploring source of the variety in organizational innovation adoption issues - An empirical study of managers' label on knowledge management project issues in Taiwan", *Expert Systems with Applications*, vol. 36, no. 2, pp. 1380-1390.

Cohen, W. M. & Levinthal, D. A. 1990, "Absorptive-Capacity - A New Perspective on Learning and Innovation", *Administrative Science Quarterly*, vol. 35, no. 1, pp. 128-152.

Danneels, E. 2002, "The dynamics of product innovation and firm competences", *Strategic Management Journal*, vol. 23, no. 12, pp. 1095-1121.

Eisenhardt, K. M. & Martin, J. A. 2000, "Dynamic capabilities: What are they?", *Strategic Management Journal*, vol. 21, no. 10-11, pp. 1105-1121.

Fosfuri, A. & Tribo, J. A. 2008, "Exploring the antecedents of potential absorptive capacity and its impact on innovation performance", *Omega-International Journal of Management Science*, vol. 36, no. 2, pp. 173-187.

GlaserB & A.Strauss 1967, *The discovery of Grounded Theory* Aldine: Chicago, IL.

Grant, R. M. 1996, "Prospering in dynamically-competitive environments: Organizational capability as knowledge integration", *Organization Science*, vol. 7, no. 4, pp. 375-387.

Henderson, R. & Cockburn, I. 1994, "Measuring Competence - Exploring Firm Effects in Pharmaceutical Research", *Strategic Management Journal*, vol. 15, pp. 63-84.

Higgins, J. M. "The core competence: innovation". Planning Review 23[6], 32-37. 1995.
Ref Type: Magazine Article

Hoffman, R. C. "Organizational innovation:management influence across cultures". Multinational Business Review 7[1], 31-49. 1999.
Ref Type: Magazine Article

Kim, W. C. & Mauborgne, R. 2003, "Fair process: Managing in the knowledge economy", *Harvard Business Review*, vol. 81, no. 1, p. 127-+.

Kogut, B. & Zander, U. 1992, "Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology", *Organization Science*, vol. 3, no. 3, pp. 383-397.

Lavie, D. 2006, "Capability reconfiguration: An analysis of incumbent responses to technological change", *Academy of Management Review*, vol. 31, no. 1, pp. 153-174.

Lee, T. W. 1999, *Using Qualitative Methods in Organizational Research.* Sage Publications: Thousand Oaks, CA..

Lei, D., Slocum, J. W., & Pitts, R. A. 1999, "Designing organizations for competitive advantage: The power of unlearning and learning", *Organizational Dynamics*, vol. 27, no. 3, pp. 24-38.

Liu, C. C., Tsai, M. T., & Chung L.M 2001, ""An empirical study on the construction of measuring model for organizational innovation in taiwanese high-tech enterprises"", *Journal of Human Resource Managment*, vol. 1, no. 1, pp. 53-71.

Lovas, B. & Ghoshal, S. 2000, "Strategy as guided evolution", *Strategic Management Journal*, vol. 21, no. 9, pp. 875-896.

March, J. G. 1991, "Exploration and Exploitation in Organizational Learning", *Organization Science*, vol. 2, no. 1, pp. 71-87.

Miles & Huberman 1994, *Qualitative Data Analysis. An Expanded Source Book* Sage Publications: Thousand Oaks, CA.

Porter, M. E. 2008, "The five competitive forces that shape strategy", *Harvard Business Review*, vol. 86, no. 1, p. 78-+.

**Schepers J, Schnell R, & Vroom P. "From ideas to business-how Siemens bridges the innovation gap". Research Technology management 42[3], 26-31. 1999.
Ref Type: Magazine Article**

Schreyogg, G. & Kliesch-Eberl, M. 2007, "How dynamic can organizational capabilities be? Towards a dual-process model of capability dynamization", *Strategic Management Journal*, vol. 28, no. 9, pp. 913-933.

Verona, G. & Ravasi, D. 2003, "Unbundling dynamic capabilities: an exploratory study of continuous product innovation", *Industrial and Corporate Change*, vol. 12, no. 3, pp. 577-606.

Zahra, S. A., Sapienza, H. J., & Davidsson, P. 2006, "Entrepreneurship and dynamic capabilities: A review, model and research agenda", *Journal of Management Studies*, vol. 43, no. 4, pp. 917-955.